

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended): A computer-implemented method of searching
2 unstructured data stored in a database, the method comprising:
3 receiving, at a first set of one or more computer systems, information indicative of
4 a set of one or more application events that, upon occurrence, cause the first set of one or more
5 computer systems to intercept database transactions instantiated by database applications with a
6 database management system of the database and to generate electronic records from data in
7 underlying database tables associated with execution of operations by the database applications
8 identified in the database transactions;
9 storing, using the first set of one or more computer systems, a plurality of
10 electronic records created based on mappings between underlying database tables associated
11 with execution of operations by the database applications and the plurality of electronic records
12 in response to occurrence of the set of one or more application events in a common repository of
13 electronic records in the database that provides an audit trail that cannot be altered or disabled by
14 users associated with the database, wherein each electronic record comprises unstructured data
15 stored in a character large-object (CLOB) format in a column of a table of the database;
16 forwarding, to a client computer, information configured for generating a first
17 graphical user interface and displaying the first graphical user interface on a display device, the
18 first graphical user interface configured to enable users of the first graphical user interface to
19 identify one or more references to sections of unstructured data within the plurality of electronic
20 records stored in the database as elements of security rules;
21 receiving, at a second set of one or more computer systems, information from a
22 user via the first graphical user interface identifying a reference to a section of unstructured data
23 within an electronic record stored in the database as an element of one or more security rules;

24 generating, using the second set of one or more computer systems, the one or
25 more security rules in response to the information from the user identifying the reference to a
26 section of unstructured data within the electronic record as an element of the one or more
27 security rules;
28 creating, using the second set of one or more computer systems, a security
29 protocol that protects the plurality of electronic records stored in the database against
30 unauthorized access based on the one or more security rules;
31 receiving, at a third set of one or more computer systems, a query
32 designed to identify a set of electronic records stored in the database that meet criteria designated
33 in the query;
34 prior to executing the query at the database management system, modifying the
35 query using the third set of one or more computer systems in accordance with the security
36 protocol to create a modified query that includes the reference to a section of unstructured data
37 within the electronic document identified by the user as an element of the one or more security
38 rules; and
39 running, using the database management system, the modified query against the
40 unstructured data of the plurality of electronic records stored in the database.

1 2. (Currently amended): The method of claim 1 further comprising:
2 forwarding, to the client computer, information configured for
3 displaying a second graphical user interface ~~and displaying the second graphical user interface~~
4 ~~on the display device, the second graphical user interface~~ configured to enable users of the
5 second graphical user interface to identify one or more references to sections of unstructured data
6 within the plurality of electronic records stored in the database as elements of an intermediate
7 index that indirectly indexes into one or more of the sections of unstructured data within the
8 plurality of electronic records using a plurality of database tables;
9 receiving, at the second set of one or more computer systems, information from a
10 user via the second graphical user interface identifying one or more references to sections of

11 unstructured data of the electronic record stored in the database as indexed elements of the
12 intermediate index; and
13 generating, using the second set of one or more computer systems, the one or
14 more security rules based on the indexed elements of the intermediate index.

1 3. (Previously Presented): The method of claim 1 wherein access to electronic
2 records in the common repository is automatically granted unless the security protocol restricts
3 such access; and
4 wherein the security protocol comprises a plurality of security rules that restrict
5 access to the electronic records within the database based on content of one or more sections of
6 unstructured data within the electronic records whose corresponding references are identified as
7 elements of the plurality of security rules.

1 4. (Previously Presented): The method of claim 1 wherein access to electronic
2 records in the common repository is automatically denied unless the security protocol grants
3 such access; and
4 wherein the security protocol comprises a plurality of security rules that grant
5 access to the electronic record within the database based on content of one or more sections of
6 unstructured data within the electronic records whose corresponding references are identified as
7 elements of the plurality of security rules.

1 5. (Currently amended): The method of claim 1 wherein the plurality of
2 electronic records are generated from multiple data sources prior to committing a database
3 transaction to the database ~~and in response to intercepting data from the non-committed database~~
4 ~~transaction.~~

1 6. (Currently amended): The method of claim 5 wherein one or more fields of an
2 electronic record in the plurality of electronic records are filled with XML data based on the
3 mappings including a predefined mapping of the fields to the multiple data sources.

7. (Canceled)

1 8. (Previously Presented): The method of claim 1 wherein the unstructured data
2 comprises well-formed XML documents stored within the column of the table stored in the
3 database.

1 9. (Original): The method of claim 1 further comprising allowing a user to
2 enable and disable the security protocol.

1 10. (Currently amended): A computer system for searching unstructured data
2 stored in a database, the computer system comprising:

3 a processor;

4 a database; and

5 a computer-readable memory coupled to the processor, the computer-readable
6 memory configured to store a computer program;

7 wherein the processor is operative with the computer program to:

8 receive information indicative of a set of one or more application events
9 that, upon occurrence, cause the processor to intercept database transactions instantiated by
10 database applications with a database management system of the database and to generate
11 electronic records from data in underlying database tables associated with execution of
12 operations by the database applications identified in the database transactions;

13 store a plurality of electronic records created by the processor based on
14 mappings between underlying database tables associated with execution of operations by the
15 database applications and the plurality of electronic records in response to occurrence of the set
16 of one or more application events in a common repository of electronic records in the database
17 that provides an audit trail that cannot be altered or disabled by users associated with the
18 database, wherein each electronic record comprises unstructured data stored in a character large-
19 object (CLOB) format in a column of a table of the database;

20 forward, to a client computer, information configured to generate a first
21 graphical user interface and displaying the first graphical user interface on a display device, the
22 first graphical user interface configured to enable a user if the first graphical user interface to

23 identify one or more reference to sections of unstructured data within the plurality of electronic
24 records stored in the database as elements of security rules;
25 receive information from a user via the first graphical user interface
26 identifying a reference to a section of unstructured data within an electronic record as an element
27 of one or more security rules;
28 generate one or more security rules in response to the information from the
29 user identifying the reference to a section of unstructured data within the electronic record as an
30 element of the one or more security rules;
31 create a security protocol that protects the plurality of electronic records
32 stored in the database against unauthorized access to the unstructured data within each electronic
33 record based on the one or more security rules;
34 receive ~~create~~ a query designed to identify a set of electronic records
35 stored in the database that meet criteria designated in the query;
36 modify the query in accordance with the security protocol to create a
37 modified query prior to the database management system executing the query that includes the
38 reference to a section of unstructured data within the electronic document identified by the user
39 as an element of the one or more security rules; and
40 cause the database management system to run the modified query against
41 the unstructured data of the plurality of electronic records stored in the database.

1 11. (Currently amended): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:
3 generate forward, to the client computer, information configured for displaying a
4 second graphical user interface and displaying the second graphical user interface on the display
5 device, the second graphical user interface configured to enable a user of the second graphical
6 user interface to identify one or more references to sections of unstructured data within the
7 plurality of electronic records stored in the database as elements of an intermediate index that
8 indirectly indexes into one or more of the sections of unstructured data within the plurality of
9 electronic records;

10 receive information from a user via the second graphical user interface identifying
11 one or more references to sections of unstructured data of the electronic record stored in the
12 database as indexed elements of the intermediate index; and
13 generate the one or more security rules based on the indexed elements of the
14 intermediate index.

1 12. (Previously Presented): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:
3 automatically grant access to electronic records in the database unless the security
4 protocol restricts such access; and
5 wherein the security protocol comprises a plurality of security rules that restrict
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 13. (Previously Presented): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:
3 automatically deny access to electronic records in the database unless the security
4 protocol grants such access; and
5 wherein the security protocol comprises a plurality of security rules that grant
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 14. (Currently amended): The computer system of claim 10 wherein the plurality
2 of electronic records are generated from multiple data sources prior to committing a database
3 transaction to the database ~~and in response to intercepting data from the non-committed database~~
4 ~~transaction.~~

1 15. (Currently amended): The computer system of claim 14 wherein one or more
2 fields of an electronic record in the plurality of electronic records are filled with XML data based
3 on the mappings including a predefined mapping of the fields to the multiple data sources.

16. (Canceled)

1 17. (Previously Presented): The computer system of claim 10 wherein the
2 unstructured data comprises well-formed XML documents stored within the column of the table
3 stored in the database.

1 18. (Currently amended): A computer program product having a computer-
2 readable storage medium storing a set of code modules which when executed by a processor of a
3 computer system cause the processor to search unstructured data stored in a database, the
4 computer program product comprising:

5 code for receiving information indicative of a set of one or more application
6 events that, upon occurrence, causes database transactions instantiated by database applications
7 with a database management system of the database to be intercepted and electronic records to
8 be generated from data in underlying database tables associated with execution of operations by
9 the database applications identified in the database transactions;

10 code for storing a plurality of electronic records created based on mappings
11 between underlying database tables associated with execution of operations by the database
12 applications and the plurality of electronic records in response to occurrence of the set of one or
13 more application events in a common repository of electronic records in the database that
14 provides an audit trail that cannot be altered or disabled by users associated with the database ,
15 wherein each electronic record comprises unstructured data stored in a character large-object
16 (CLOB) format in a column of a table of the database;

17 code for generating a first graphical user interface and displaying the first
18 graphical user interface on a display device, the first graphical user interface configured to

19 enable a user to identify one or more reference to sections of unstructured data within the
20 plurality of electronic records stored in the database as elements of security rules;
21 code for receiving information from a user via the first graphical user interface
22 identifying a reference to a section of unstructured data within an electronic record as an element
23 of one or more security rules;
24 code for generating the one or more security rules in response to the information
25 from the user identifying the reference to a section of unstructured data within the electronic
26 record as an element of the one or more security rules;
27 code for creating a security protocol that protects the plurality of electronic
28 records stored in the database against unauthorized access based on the one or more security
29 rules;
30 code for creating a query designed to identify a set of electronic records stored in
31 the database that meet criteria designated in the query;
32 code for modifying the query in accordance with the security protocol to create a
33 modified query prior to executing the query, the modified query including the section of
34 unstructured data within the electronic document identified by the user as an element of the one
35 or more security rules; and
36 code for running the modified query against the unstructured data of the plurality
37 of electronic records stored in the database.

1 19. (Previously Presented): The computer program product of claim 18 further
2 comprising:
3 code for generating a second graphical user interface and displaying the second
4 graphical user interface on the display device, the second graphical user interface configured to
5 enable a user to identify one or more references to sections of unstructured data within the
6 plurality of electronic records stored in the database as elements of an intermediate index that
7 indirectly indexes into one or more of the sections of unstructured data within the plurality of
8 electronic records;

9 code for receiving information from a user via the second graphical user interface
10 identifying one or more references to sections of unstructured data of the electronic record as
11 indexed elements of the intermediate index; and
12 code for generating the one or more security rules based on the indexed elements
13 of the intermediate index.

1 20. (Previously Presented): The computer program product of claim 18 further
2 comprising:
3 code for automatically granting access to electronic records in the database unless
4 the security protocol restricts such access;
5 wherein the security protocol comprises a plurality of security rules that restrict
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 21. (Previously Presented): The computer program product of claim 18 further
2 comprising:
3 code for automatically denying access to electronic records in the database unless
4 the security protocol grants such access;
5 wherein the security protocol comprises a plurality of security rules that grant
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 22. (Currently amended): The computer program product of claim 18 wherein
2 the plurality of electronic records are generated from multiple data sources prior to committing a
3 database transaction to the database ~~and in response to intercepting data from the non-committed~~
4 ~~database transaction.~~

1 23. (Currently amended): The computer program product of claim 18 wherein
2 one or more fields of an electronic record in the plurality of electronic records are filled with
3 XML data based on the mappings including a predefined mapping of the fields to multiple data
4 sources.

24. (Canceled)

1 25. (Previously Presented): The computer program product of claim 18 wherein
2 the unstructured data comprises well-formed XML documents stored within the column of the
3 table stored in the database.

1 26. (Canceled).